

Viliam Lisý

Assistant professor

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EMPLOYMENT

- Jan 2007 – now **Czech Technical University in Prague.** Assistant professor.
- May 2015 – Feb 2017 **University of Alberta,** Edmonton, Canada. Postdoctoral fellowship with Dr. Michael Bowling.
- Nov 2007 – Dec 2016 **Czech Technical University in Prague.** Research scientist on projects sponsored by Czech Science Foundation and US defense funding agencies.
- Mar – Jun 2006 **Philips CE, Innovation Laboratory,** Eindhoven, The Netherlands. Internship work on the master project concluded by a technical report and two publications.
- 2003 – 2007 Part-time programming of various projects in C, C++, C#, bash, PHP for several Czech companies.

EDUCATION

- 2015 **Ph.D. in Artificial Intelligence.** Agent Technology Center, Department of Computer Science, Czech Technical University in Prague. <http://agents.felk.cvut.cz>
advisor Dr. Michal Pěchouček
thesis *Monte Carlo Tree Search in Imperfect-Information Games*
- 2008 **Mgr. (M.Sc. equivalent) in Theoretical Computer Science.** Department of Theoretical Computer Science and Mathematical Logic, Faculty of Mathematics and Physics, Charles University in Prague, Czech Republic. <http://www.mff.cuni.cz>
advisor Dr. Ondřej Čepek
thesis *Approximation of Hard Scheduling Problems*
- 2006 **M.Sc. in Technical Artificial Intelligence.** Faculty of Sciences, Vrije Universiteit Amsterdam, The Netherlands. <http://www.few.vu.nl>
advisor Dr. Egon van den Broek
thesis *Automatic Classification of Human Emotions Using Physiological Signals*

LONG-TERM VISITS

- May – July 2009 Visiting Research Assistant at the Robotics Institute of **Carnegie Mellon University** under direction of prof. Katia Sycara.
- March–May 2010
- July 2013 Visiting Scholar at Ben Gurion University of Negev, Israel, working with Dr. Roie Zivan.

SERVICE - AWARDS - SCHOLARSHIPS

- 2013 – now Program committee member: AAMAS 2013, 2014, 2016; IJCAI 2013, 2016; AAI 2016.
- 2010 – 2013 Student scholarship for attending the IJCAI, NIPS, AAMAS, ECAI conferences.
- 2006 My M.Sc. degree is granted **cum laude**.
- 2005 – 2006 My M.Sc. studies were covered from scholarship by Vrije Universiteit Amsterdam.
- 2005 Scholarship for excellent study results in 2004/05 by Charles University.

SELECTED PUBLICATIONS

- Science 2017 M. Moravcik, M. Schmid, N. Burch, V. Lisy, D. Morrill, N. Bard, T. Davis, K. Waugh, M. Johanson, M. Bowling: *DeepStack: Expert-level artificial intelligence in heads-up no-limit poker*. Science, eaam 6960

- AIJ 2016 B. Bosansky, V. Lisy, M. Lanctot, J. Cermak, M. Winands: *Algorithms for Computing Strategies in Two-Player Simultaneous Move Games*. Artificial Intelligence, 237, 1-40
- JAIR 2014 B. Bosansky, C. Kiekintveld, V. Lisy, M. Pechoucek: *An Exact Double-Oracle Algorithm for Zero-Sum Extensive-Form Games with Imperfect Information*. Journal of Artificial Intelligence Research, Volume 51.
- IJCAI 2016 T. Yee, V. Lisy, M. Bowling: *Monte carlo tree search in continuous action spaces with execution uncertainty*. In Proceedings of the 25th International Joint Conference on Artificial Intelligence.
- AAAI 2016 V. Lisy, T. Davis, M. Bowling: *Counterfactual Regret Minimization in Sequential Security Games*. In The Thirtieth AAAI Conference on Artificial Intelligence.
- AAMAS 2015 V. Lisy, M. Lanctot, M. Bowling: *Online Monte Carlo Counterfactual Regret Minimization for Search in Imperfect Information Games*. In 14th International Conference on Autonomous Agents and Multiagent Systems.
- IJCAI 2015 K. Durkota, V. Lisy, C Kiekintveld, B Bosansky: *Game-Theoretic Algorithms for Optimal Network Security Hardening Using Attack Graphs*. In Proceedings of the 24th International Joint Conference on Artificial Intelligence.
- ECML 2014 V. Lisy , R. Kessl and T. Pevny: *Randomized Operating Point Selection in Adversarial Classification*. In The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases.
- NIPS 2013 V. Lisy, V. Kovarik, M. Lanctot and B. Bosansky: *Convergence of Monte Carlo Tree Search in Simultaneous Move Games*. In Advances in Neural Information Processing Systems 26.
- IJCAI 2013 B. Bosansky, V. Lisy, J. Cermak, R. Vitek and M. Pechoucek: *Using Double-oracle Method and Serialized Alpha-Beta Search for Pruning in Simultaneous Moves Games*. In Proceedings of the 23rd International Joint Conference on Artificial Intelligence.
- AAMAS 2013 B. Bosansky, C. Kiekintveld, V. Lisy, J. Cermak and M. Pechoucek: *Double-oracle Algorithm for Computing an Exact Nash Equilibrium in Zero-sum Extensive-form Games*. In 12th International Conference on Autonomous Agents and Multiagent Systems.
- ECAI 2012 V. Lisy, R. Pibil, J. Stiborek, B. Bosansky and M. Pechoucek: *Game-theoretic Approach to Adversarial Plan Recognition*. In 20th European Conference on Artificial Intelligence.
- AAMAS 2012 V. Lisy, B. Bosansky and M. Pechoucek: *Anytime Algorithms for Multi-agent Visibility-based Pursuit-evasion Games*. In 11th International Conference on Autonomous Agents and Multiagent Systems.
- AAMAS 2011 B. Bosansky, V. Lisy, M. Jakob and M. Pechoucek: *Computing Time-Dependent Policies for Patrolling Games with Mobile Targets*. In 10th International Conference on Autonomous Agents and Multiagent Systems.
- AAMAS 2010 V. Lisy, R. Zivan, K. Sycara and M. Pechoucek: *Deception in Networks of Mobile Sensing Agents*. In 9th International Conference on Autonomous Agents and Multiagent Systems.
- AAMAS 2009 V. Lisy, B. Bosansky, M. Jakob and M. Pechoucek: *Adversarial Search with Procedural Knowledge Heuristic*. In 8th International Conference on Autonomous Agents and Multiagent Systems.
- BIOSTEC 2009 E.L. van den Broek, V. Lisy, J.H. Janssen, J.D.H.M. Westerink, M.H. Schut and K. Tuinenbreijer: *Affective Man-Machine Interface: Unveiling human emotions through biosignals*. In BioMedical Engineering Systems and Technologies. Selected Revised papers.

SELECTED RESEARCH PROJECTS

- Oct 2013 - Sep 2015 **Principal Investigator**, Optimizing Heterogeneous Intrusion Detection System Against Rational Adversary, Office of Naval Research Global
- 2012 - Sep 2013 Team Member, Attacker Detection and Strategic HoneyPot Allocation in Intrusion Detection System, Office of Naval Research Global
- 2012 - 2014 Team Member, Security Games in Extensive Form, Czech Science Foundation

SCIENTIFIC INTERESTS

- Game Theory Computational Game Theory, Learning in Games, Imperfect Information, Deception
- Network Security Attack Graphs, Intrusion Detection, HoneyPots
- Artificial Intell. Decision Making Under Uncertainty, State Space Search, Planning, Machine Learning